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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Timothy J. Van Hook et al.
Serial No.: 10/672,707
Filing Date: September 26, 2003
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Title: **METHOD AND APPARATUS FOR COMPRESSION OF MULTI-SAMPLED
ANTI-ALIASING COLOR DATA**

CLAIM AMENDMENTS

1. (currently amended) A method of data compression comprising:
~~retrieving tiles of pixel data;~~
grouping a plurality of pixel data into a plurality of tiles;
prior to compression, ~~resizing the tiles and~~ evaluating said ~~resized~~ tiles for compression suitability to determine if said ~~resized~~ tile is to be fully compressed, partially compressed or uncompressed, wherein said full or partial compression recognizes duplicate data and reduces amount of duplicate data stored within said ~~resized~~ tiles and wherein evaluating prior to compression comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data; and
fully or partially compressing said ~~resized~~ tiles if said ~~resized~~ tiles are deemed suitable for said full or partial compression;
wherein said evaluating further comprises:
determining that a ~~resized~~ tile is suitable for partial compression when the ~~resized~~ tile is covered by a plurality of primitives;

designating said ~~resized~~-tile for partial compression if it is deemed to be suitable and wherein partial compression comprises employing at least two color designations for subsamples of a same ~~resized~~-tile to compress data for the ~~resized~~-tile; [[and]] partially compressing the ~~resized~~-tile using a single bit to represent each of the at least two color designations; and
wherein the tile is stored in an uncompressed format when it is covered by more than two primitives.

2. (currently amended) The method of claim 1 wherein said pixel data is color information ~~and further comprising operating on the resized tile in its compressed format.~~

3. (currently amended) The method of claim 1 wherein said evaluating further comprises:

determining whether a ~~resized~~-tile is suitable for full compression;
designating said ~~resized~~-tile for full compression if it is deemed to be suitable.

4. (currently amended) The method of claim 3 wherein said determining whether the ~~resized~~-tile is suitable for full compression further comprises:

determining whether said ~~resized~~-tile is wholly covered by a triangle primitive.

5. (currently amended) The method of claim 3 wherein said fully compressing further comprises:

storing a single color entry for each pixel in said ~~resized~~-tile.

6. (original) The method of claim 3 wherein said full compression compresses said pixel data into one word per pixel.
7. (canceled)
8. (currently amended) The method of claim 1 wherein said determining that a ~~resized~~-tile is suitable for partial compression further comprises:
determining whether said ~~resized~~-tile is covered by no more than two triangle primitives.
9. (currently amended) The method of claim 1 wherein said partial compressing further comprises:
assigning an order to triangle primitives covering said ~~resized~~-tile;
determining the color type of each sample of said ~~resized~~-tile;
creating a compressed format of color entries out of said pixel data;
creating a pointer to said compressed format.
10. (currently amended) The method of claim 9 wherein said pointer comprises a bit encoding associated with each sample in said ~~resized~~-tile, wherein each bit represents an index to entries in said compressed format.
11. (original) The method of claim 10 wherein said pointer further comprises a short-hand bit encoding scheme for encoding a pixel with no replacement colors.

12. (previously presented) The method of claim 1 wherein said partial compression compresses said pixel data into two words per pixel.

13. (currently amended) The method of claim 1 wherein said ~~resized~~ tiles are 2x2 in size.

14. – 33. (canceled)

34. (currently amended) A graphics processing apparatus comprising:
~~retrieving tiles of pixel data;~~
a grouping unit configured to group a plurality of pixel data into a plurality of tiles;
an evaluation unit configured to ~~resize the tiles and to evaluate said resized tiles~~ for compression suitability prior to compression to determine if a ~~resized~~ tile is to be fully compressed, partially compressed or uncompressed, wherein said full or partial compression recognizes duplicate data and reduces amount of duplicate data stored within said ~~resized~~ tiles and determines whether a ~~resized~~ tile is suitable for partial compression when the ~~resized~~ tile is covered by a plurality of primitives and wherein evaluating prior to compression comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data and determining that a tile is to be stored in an uncompressed format when it is covered by more than two primitives;

a compression unit configured to partially compress ~~resized~~ tiles if they are suitable for partial compression and wherein partial compression comprises employing at least two color

designations for subsamples of a same ~~resized~~-tile to compress data for the ~~resized~~-tile and wherein the compression unit is operative to partially compress the ~~resized~~-tile using a single bit to represent each of the at least two color designations.

35. (currently amended) The graphics processing apparatus of claim 34, wherein said pixel data is color information ~~operating on the resized tile in its compressed format.~~

36. – 54. (canceled)

55. (currently amended) The graphics processing apparatus of claim 34 wherein said ~~resized~~-tiles are 2x2 in size.

56. (currently amended) A computer program product comprising:
a non-transitory computer readable medium having computer readable program code embodied therein configured for data compression, comprising:
computer readable code configured to cause a computer to group a plurality of pixel data into a plurality of tiles; ~~resize retrieved tiles prior to compression;~~
computer readable code configured to cause a computer to evaluate said ~~resized~~-tiles, prior to compression, for compression suitability to determine if said ~~resized~~-tile is to be fully compressed, partially compressed or uncompressed, wherein said partial or full compression recognizes duplicate data and reduces amount of duplicate data stored within said ~~resized~~-tiles and wherein evaluating prior to compression comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data; [[and]]

wherein said computer readable code configured to cause a computer to evaluate further causes the computer to:

determine whether a ~~resized~~ tile is suitable for partial compression when the ~~resized~~ tile is covered by a plurality of primitives;

designate said ~~resized~~ tile for partial compression if it is deemed to be suitable and wherein partial compression comprises employing at least two color designations for subsamples of a same ~~resized~~ tile to compress data for the ~~resized~~ tile; [[and]]

partially compress the ~~resized~~ tile using a single bit to represent each of the at least two color designations; and

determine that the tile is to be stored in an uncompressed format when it is covered by more than two primitives.

57. (currently amended) The computer program product of claim 56 wherein said pixel data is color information ~~operating on the resized tile in its compressed format.~~

58. (currently amended) The computer program product of claim 56 wherein said computer readable code configured to cause a computer to evaluate further comprises:

computer readable code configured to cause a computer to determine whether a ~~resized~~ tile is suitable for full compression;

computer readable code configured to cause a computer to designate said ~~resized~~ tile for full compression if it is deemed to be suitable.

59. (currently amended) The computer program product of claim 58 wherein said computer readable code configured to cause a computer to determine whether the ~~resized~~ tile is suitable for full compression further comprises:

computer readable code configured to cause a computer to determine whether said ~~resized~~ tile is wholly covered by a triangle primitive.

60. (currently amended) The computer program product of claim 58 wherein said computer readable code configured to cause a computer to fully compress further comprises:

computer readable code configured to cause a computer to store a single color entry for each pixel in said ~~resized~~ tile.

61. (original) The computer program product of claim 58 wherein said full compression compresses said pixel data into one word per pixel.

62. (canceled)

63. (currently amended) The computer program product of claim 56 wherein said computer readable code configured to cause a computer to determine if a ~~resized~~ tile is suitable for partial compression further comprises:

computer readable code configured to cause a computer to determine whether said ~~resized~~ tile is covered by no more than two triangle primitives.

64. (currently amended) The computer program product of claim 56 wherein said computer readable code configured to cause a computer to compress further comprises:

computer readable code configured to cause a computer to assign an order to triangle primitives covering said ~~resized~~-tile;

computer readable code configured to cause a computer to determine the color type of each sample of said ~~resized~~-tile;

computer readable code configured to cause a computer to create a compressed format of color entries out of said pixel data;

computer readable code configured to cause a computer to create a pointer to said compressed format.

65. (currently amended) The computer program product of claim 64 wherein said pointer comprises a bit encoding associated with each sample in said ~~resized~~-tile, wherein each bit represents an index to entries in said compressed format.

66. (original) The computer program product of claim 65 wherein said pointer further comprises a short-hand bit encoding scheme for encoding a pixel with no replacement colors.

67. (previously presented) The computer program product of claim 56 wherein said partial compression compresses said pixel data into two words per pixel.

68. (currently amended) The computer program product of claim 56 wherein said ~~resized~~-tiles are 2x2 in size.

69. – 88. (canceled)

89. (currently amended) A method of data compression comprising:

~~retrieving tiles of pixel data;~~

~~resizing the tiles;~~

grouping a plurality of pixel data into a plurality of tiles;

~~evaluating said resized-tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces amount of duplicate data stored within said resized-tiles and wherein evaluating comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data;~~

~~partially compressing said resized-tiles if said resized-tiles are deemed suitable for said partial compression;~~

~~wherein said evaluating further comprises:~~

~~determining whether a resized-tile is suitable for full compression by determining whether said resized-tile is wholly covered by a triangle primitive;~~

~~designating said resized-tile for full compression if it is deemed to be suitable;~~

~~[[and]]~~

~~designating said resized-tile for partial compression if it is deemed to be suitable for partial compression wherein partial compression comprises creating a compressed format of color entries out of said pixel data and creating a pointer to said compressed format, wherein the pointer comprises a bit encoding associated with each sample in the resized-tile; and~~

storing the tile in an uncompressed format when it is determined to be covered by more than two primitives.

90. (currently amended) A computer program product comprising:
a non-transitory computer readable medium having computer readable program code embodied therein configured for data compression, comprising:
computer readable code configured to cause a computer to:
group a plurality of pixel data into a plurality of ~~resized~~-tiles;
evaluate said ~~resized~~-tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces amount of duplicate data stored within said ~~resized~~-tiles;
partially or fully compress said ~~resized~~-tiles if said ~~resized~~-tiles are deemed suitable for partial or full compression;
wherein evaluating further comprises:
determining whether a ~~resized~~-tile is suitable for full compression by determining whether said ~~resized~~-tile is wholly covered by a triangle primitive;
designating said ~~resized~~-tile for full compression if it is deemed to be suitable; [[and]]
designating said ~~resized~~-tile for partial compression if it is deemed to be suitable for partial compression wherein partial compression comprises creating a compressed format of color entries out of said pixel data and creating a pointer to said compressed format, wherein the pointer comprises a bit encoding associated with each sample in the ~~resized~~-tile; and
storing the tile in an uncompressed format when it is covered by more than two primitives.

91. (currently amended) A method of data compression comprising:

~~retrieving tiles of pixel data;~~

~~resizing the tiles;~~

grouping a plurality of pixel data into a plurality of tiles;

evaluating said ~~resized~~ tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces an amount of duplicate data stored within said ~~resized~~ tiles and wherein evaluating comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data;

partially compressing said ~~resized~~ tiles if said ~~resized~~ tiles are deemed suitable for said partial compression;

wherein said evaluating further comprises:

determining whether a ~~resized~~ tile is suitable for partial compression by

determining whether said ~~resized~~ tile is covered by no more than two triangle primitives;

[[and]]

designating said ~~resized~~ tile for partial compression if it is deemed to be suitable;

and

storing the tile in an uncompressed format when it is covered by more than two primitives.

92. (currently amended) A computer program product comprising:

a non-transitory computer readable medium having computer readable program code embodied therein configured for data compression, comprising:

computer readable code configured to cause a computer to:

~~retrieve tiles of pixel data;~~

~~resize the tiles;~~

group a plurality of pixel data into a plurality of tiles;

evaluate said ~~resized~~-tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces amount of duplicate data stored within said resized tiles and wherein evaluating comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data;

partially compress said ~~resized~~-tiles if said ~~resized~~-tiles are deemed suitable for said partial compression;

wherein evaluating further comprises:

determining whether a ~~resized~~-tile is suitable for partial compression by
determining whether said ~~resized~~-tile is covered by no more than two triangle primitives;
[[and]]

designating said ~~resized~~-tile for partial compression if it is deemed to be suitable
and

storing the tile in an uncompressed format when it is covered by more than two
primitives.

93. (currently amended) A computer program product comprising:
a non-transitory computer readable medium having computer readable program code embodied therein configured for data compression, comprising:

computer readable code configured to cause a computer to:

~~retrieve tiles of pixel data;~~

~~resize the tiles;~~

group a plurality of pixel data into a plurality of tiles;

evaluate said ~~resized~~ tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces an amount of duplicate data stored within said ~~resized~~ tiles and wherein evaluating prior to compression comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data;

compress said ~~resized~~ tiles if said ~~resized~~ tiles are deemed suitable for said compression;

wherein evaluating further comprises:

determining whether a ~~resized~~ tile is suitable for partial compression;

designating said ~~resized~~ tile for partial compression if it is deemed to be suitable;

wherein partial compressing further comprises:

assigning an order to triangle primitives covering said ~~resized~~ tile;

determining the color type of each sample of said ~~resized~~ tile;

creating a compressed format of color entries out of said pixel data; [[and]]

creating a pointer to said compressed format; and

storing the tile in an uncompressed format when it is covered by more than two primitives.

94. (previously presented) The method of claim 1 wherein partial compression comprises employing pointers to designate samples that correspond to an original color designation and a replacement color designation.

95. (previously presented) The method of claim 1 wherein the method is carried out by a graphics processor.

96. (previously presented) The method of claim 89 wherein the method is carried out by a graphics processor.

97. (previously presented) The method of claim 91 wherein the method is carried out by a graphics processor.

98. (currently amended) A method of data compression comprising:

~~retrieving tiles of pixel data;~~

~~resizing the tiles;~~

grouping a plurality of pixel data into a plurality of tiles;

~~evaluating said resized-tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces amount of duplicate data stored within said resized-tiles; and~~

~~partially compressing said resized-tiles if said resized-tiles are deemed suitable for said partial compression;~~

~~wherein said evaluating further comprises:~~

determining whether a ~~resized~~-tile is suitable for partial compression; and
designating said ~~resized~~-tile for partial compression if it is deemed to be suitable;
wherein said partial compressing further comprises:
assigning an order to triangle primitives covering said ~~resized~~-tile;
determining the color type of each sample of said ~~resized~~-tile;
creating a compressed format of color entries out of said pixel data; and
creating a pointer to said compressed format;
wherein said pointer comprises a bit encoding associated with each sample in said
~~resized~~-tile, wherein each bit represents an index to entries in said compressed format;
wherein said pointer further comprises a short-hand bit encoding scheme for encoding a
pixel with no replacement colors; and
wherein the tile is stored in an uncompressed format when it is covered by more than two
primitives.

99. (currently amended) A computer program product comprising:
a non-transitory computer readable medium having computer readable program code
embodied therein configured for data compression, comprising:
computer readable code configured to cause a computer to ~~retrieve tiles of pixel~~
~~data~~ group a plurality of pixel data into a plurality of tiles;
computer readable code configured to cause a computer to ~~resize said tiles and to~~
evaluate said ~~resized~~-tiles for compression suitability, wherein said compression
suitability recognizes duplicate data and reduces amount of duplicate data stored within
said ~~resized~~-tiles; and

computer readable code configured to cause a computer to partially compress said ~~resized~~-tiles if said ~~resized~~-tiles are deemed suitable for said partial compression;

wherein said computer readable code configured to cause a computer to evaluate further comprises:

determining whether a ~~resized~~-tile is suitable for partial compression; and
designating said ~~resized~~-tile for partial compression if it is deemed to be suitable;

wherein said computer readable code configured to cause a computer to partially compress further comprises:

computer readable code configured to cause a computer to assign an order to triangle primitives covering said ~~resized~~-tile;

computer readable code configured to cause a computer to determine the color type of each sample of said ~~resized~~-tile;

computer readable code configured to cause a computer to create a compressed format of color entries out of said pixel data;

computer readable code configured to cause a computer to create a pointer to said compressed format;

wherein said pointer comprises a bit encoding associated with each sample in said ~~resized~~-tile, wherein each bit represents an index to entries in said partial compressed format;

wherein said pointer further comprises a short-hand bit encoding scheme for encoding a pixel with no replacement colors; and

wherein the tile is stored in an uncompressed format when it is covered by more than two primitives.

REMARKS

Applicants' attorney wishes to thank the Examiner for the courtesies extended during the telephone conferences of September 8, 2011 and September 21, 2011. The amended claims are believed to be in condition for allowance. Applicants' attorney invites the Examiner to contact the below listed attorney if the Examiner has any questions or comments regarding the proposed claim amendments.

Respectfully submitted,

Date: September 21, 2011

By: 

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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Timothy J. Van Hook et al.
Serial No.: 10/672,707
Filing Date: September 26, 2003
Confirmation No.: 1126

Examiner: Sean T. Motsinger
Art Group: 2624
Docket No.: 00100.01.0022

Title: **METHOD AND APPARATUS FOR COMPRESSION OF MULTI-SAMPLED
ANTI-ALIASING COLOR DATA**

CLAIM AMENDMENTS – CLEAN COPY

1. A method of data compression comprising:
grouping a plurality of pixel data into a plurality of tiles;
prior to compression, evaluating said tiles for compression suitability to determine if said tile is to be fully compressed, partially compressed or uncompressed, wherein said full or partial compression recognizes duplicate data and reduces amount of duplicate data stored within said tiles and wherein evaluating prior to compression comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data; and
fully or partially compressing said tiles if said tiles are deemed suitable for said full or partial compression;
wherein said evaluating further comprises:
determining that a tile is suitable for partial compression when the tile is covered by a plurality of primitives;
designating said tile for partial compression if it is deemed to be suitable and
wherein partial compression comprises employing at least two color designations for subsamples of a same tile to compress data for the tile;

partially compressing the tile using a single bit to represent each of the at least two color designations; and

wherein the tile is stored in an uncompressed format when it is covered by more than two primitives.

2. The method of claim 1 wherein said pixel data is color information.
3. The method of claim 1 wherein said evaluating further comprises:
determining whether a tile is suitable for full compression;
designating said tile for full compression if it is deemed to be suitable.
4. The method of claim 3 wherein said determining whether the tile is suitable for full compression further comprises:
determining whether said tile is wholly covered by a triangle primitive.
5. The method of claim 3 wherein said fully compressing further comprises:
storing a single color entry for each pixel in said tile.
6. The method of claim 3 wherein said full compression compresses said pixel data into one word per pixel.
7. (canceled)

8. The method of claim 1 wherein said determining that a tile is suitable for partial compression further comprises:

determining whether said tile is covered by no more than two triangle primitives.

9. The method of claim 1 wherein said partial compressing further comprises:

assigning an order to triangle primitives covering said tile;

determining the color type of each sample of said tile;

creating a compressed format of color entries out of said pixel data;

creating a pointer to said compressed format.

10. The method of claim 9 wherein said pointer comprises a bit encoding associated with each sample in said tile, wherein each bit represents an index to entries in said compressed format.

11. The method of claim 10 wherein said pointer further comprises a short-hand bit encoding scheme for encoding a pixel with no replacement colors.

12. The method of claim 1 wherein said partial compression compresses said pixel data into two words per pixel.

13. The method of claim 1 wherein said tiles are 2x2 in size.

14. – 33. (canceled)

34. A graphics processing apparatus comprising:

a grouping unit configured to group a plurality of pixel data into a plurality of tiles;

an evaluation unit configured to evaluate said tiles for compression suitability prior to compression to determine if a tile is to be fully compressed, partially compressed or uncompressed, wherein said full or partial compression recognizes duplicate data and reduces amount of duplicate data stored within said tiles and determines whether a tile is suitable for partial compression when the tile is covered by a plurality of primitives and wherein evaluating prior to compression comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data and determining that a tile is to be stored in an uncompressed format when it is covered by more than two primitives;

a compression unit configured to partially compress tiles if they are suitable for partial compression and wherein partial compression comprises employing at least two color designations for subsamples of a same tile to compress data for the tile and wherein the compression unit is operative to partially compress the tile using a single bit to represent each of the at least two color designations.

35. The graphics processing apparatus of claim 34, wherein said pixel data is color information.

36. – 54. (canceled)

55. The graphics processing apparatus of claim 34 wherein said tiles are 2x2 in size.

56. A computer program product comprising:

a non-transitory computer readable medium having computer readable program code embodied therein configured for data compression, comprising:

computer readable code configured to cause a computer to group a plurality of pixel data into a plurality of tiles;

computer readable code configured to cause a computer to evaluate said tiles, prior to compression, for compression suitability to determine if said tile is to be fully compressed, partially compressed or uncompressed, wherein said partial or full compression recognizes duplicate data and reduces amount of duplicate data stored within said tiles and wherein evaluating prior to compression comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data;

wherein said computer readable code configured to cause a computer to evaluate further causes the computer to:

determine whether a tile is suitable for partial compression when the tile is covered by a plurality of primitives;

designate said tile for partial compression if it is deemed to be suitable and wherein partial compression comprises employing at least two color designations for subsamples of a same tile to compress data for the tile;

partially compress the tile using a single bit to represent each of the at least two color designations; and

determine that the tile is to be stored in an uncompressed format when it is covered by more than two primitives.

57. The computer program product of claim 56 wherein said pixel data is color information.

58. The computer program product of claim 56 wherein said computer readable code configured to cause a computer to evaluate further comprises:

computer readable code configured to cause a computer to determine whether a tile is suitable for full compression;

computer readable code configured to cause a computer to designate said tile for full compression if it is deemed to be suitable.

59. The computer program product of claim 58 wherein said computer readable code configured to cause a computer to determine whether the tile is suitable for full compression further comprises:

computer readable code configured to cause a computer to determine whether said tile is wholly covered by a triangle primitive.

60. The computer program product of claim 58 wherein said computer readable code configured to cause a computer to fully compress further comprises:

computer readable code configured to cause a computer to store a single color entry for each pixel in said tile.

61. The computer program product of claim 58 wherein said full compression compresses said pixel data into one word per pixel.

62. (canceled)

63. The computer program product of claim 56 wherein said computer readable code configured to cause a computer to determine if a tile is suitable for partial compression further comprises:

computer readable code configured to cause a computer to determine whether said tile is covered by no more than two triangle primitives.

64. The computer program product of claim 56 wherein said computer readable code configured to cause a computer to compress further comprises:

computer readable code configured to cause a computer to assign an order to triangle primitives covering said tile;

computer readable code configured to cause a computer to determine the color type of each sample of said tile;

computer readable code configured to cause a computer to create a compressed format of color entries out of said pixel data;

computer readable code configured to cause a computer to create a pointer to said compressed format.

65. The computer program product of claim 64 wherein said pointer comprises a bit encoding associated with each sample in said tile, wherein each bit represents an index to entries in said compressed format.

66. The computer program product of claim 65 wherein said pointer further comprises a short-hand bit encoding scheme for encoding a pixel with no replacement colors.

67. The computer program product of claim 56 wherein said partial compression compresses said pixel data into two words per pixel.

68. The computer program product of claim 56 wherein said tiles are 2x2 in size.

69. – 88. (canceled)

89. A method of data compression comprising:

grouping a plurality of pixel data into a plurality of tiles;

evaluating said tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces amount of duplicate data stored within said tiles and wherein evaluating comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data;

partially compressing said tiles if said tiles are deemed suitable for said partial compression;

wherein said evaluating further comprises:

determining whether a tile is suitable for full compression by determining whether said tile is wholly covered by a triangle primitive;

designating said tile for full compression if it is deemed to be suitable;

designating said tile for partial compression if it is deemed to be suitable for partial compression wherein partial compression comprises creating a compressed format of color entries out of said pixel data and creating a pointer to said compressed format, wherein the pointer comprises a bit encoding associated with each sample in the tile; and storing the tile in an uncompressed format when it is determined to be covered by more than two primitives.

90. A computer program product comprising:

a non-transitory computer readable medium having computer readable program code embodied therein configured for data compression, comprising:

computer readable code configured to cause a computer to:

group a plurality of pixel data into a plurality of tiles;

evaluate said tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces amount of duplicate data stored within said tiles;

partially or fully compress said tiles if said tiles are deemed suitable for partial or full compression;

wherein evaluating further comprises:

determining whether a tile is suitable for full compression by determining whether said tile is wholly covered by a triangle primitive;

designating said tile for full compression if it is deemed to be suitable;

designating said tile for partial compression if it is deemed to be suitable for partial compression wherein partial compression comprises creating a compressed format of color entries out of said pixel data and creating a pointer to said compressed format, wherein the pointer comprises a bit encoding associated with each sample in the tile; and

storing the tile in an uncompressed format when it is covered by more than two primitives.

91. A method of data compression comprising:

grouping a plurality of pixel data into a plurality of tiles;

evaluating said tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces an amount of duplicate data stored within said tiles and wherein evaluating comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data;

partially compressing said tiles if said tiles are deemed suitable for said partial compression;

wherein said evaluating further comprises:

determining whether a tile is suitable for partial compression by determining whether said tile is covered by no more than two triangle primitives;

designating said tile for partial compression if it is deemed to be suitable; and

storing the tile in an uncompressed format when it is covered by more than two primitives.

92. A computer program product comprising:
a non-transitory computer readable medium having computer readable program code embodied therein configured for data compression, comprising:
computer readable code configured to cause a computer to:
group a plurality of pixel data into a plurality of tiles;
evaluate said tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces amount of duplicate data stored within said resized tiles and wherein evaluating comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data;
partially compress said tiles if said tiles are deemed suitable for said partial compression;
wherein evaluating further comprises:
determining whether a tile is suitable for partial compression by determining whether said tile is covered by no more than two triangle primitives;
designating said tile for partial compression if it is deemed to be suitable and
storing the tile in an uncompressed format when it is covered by more than two primitives.

93. A computer program product comprising:
a non-transitory computer readable medium having computer readable program code embodied therein configured for data compression, comprising:
computer readable code configured to cause a computer to:
group a plurality of pixel data into a plurality of tiles;

evaluate said tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces an amount of duplicate data stored within said tiles and wherein evaluating prior to compression comprises determining whether partial compression will result in memory space saving compared to uncompressed pixel data;

compress said tiles if said tiles are deemed suitable for said compression;
wherein evaluating further comprises:

determining whether a tile is suitable for partial compression;

designating said tile for partial compression if it is deemed to be suitable;

wherein partial compressing further comprises:

assigning an order to triangle primitives covering said tile;

determining the color type of each sample of said tile;

creating a compressed format of color entries out of said pixel data;

creating a pointer to said compressed format; and

storing the tile in an uncompressed format when it is covered by more than two primitives.

94. The method of claim 1 wherein partial compression comprises employing pointers to designate samples that correspond to an original color designation and a replacement color designation.

95. The method of claim 1 wherein the method is carried out by a graphics processor.

96. The method of claim 89 wherein the method is carried out by a graphics processor.

97. The method of claim 91 wherein the method is carried out by a graphics processor.

98. A method of data compression comprising:
grouping a plurality of pixel data into a plurality of tiles;
evaluating said tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces amount of duplicate data stored within said tiles; and
partially compressing said tiles if said tiles are deemed suitable for said partial compression;
wherein said evaluating further comprises:
determining whether a tile is suitable for partial compression; and
designating said tile for partial compression if it is deemed to be suitable;
wherein said partial compressing further comprises:
assigning an order to triangle primitives covering said tile;
determining the color type of each sample of said tile;
creating a compressed format of color entries out of said pixel data; and
creating a pointer to said compressed format;
wherein said pointer comprises a bit encoding associated with each sample in said tile, wherein each bit represents an index to entries in said compressed format;

wherein said pointer further comprises a short-hand bit encoding scheme for encoding a pixel with no replacement colors; and

wherein the tile is stored in an uncompressed format when it is covered by more than two primitives.

99. A computer program product comprising:

a non-transitory computer readable medium having computer readable program code embodied therein configured for data compression, comprising:

computer readable code configured to cause a computer to group a plurality of pixel data into a plurality of tiles;

computer readable code configured to cause a computer to evaluate said tiles for compression suitability, wherein said compression suitability recognizes duplicate data and reduces amount of duplicate data stored within said tiles; and

computer readable code configured to cause a computer to partially compress said tiles if said tiles are deemed suitable for said partial compression;

wherein said computer readable code configured to cause a computer to evaluate further comprises:

determining whether a tile is suitable for partial compression; and

designating said tile for partial compression if it is deemed to be suitable;

wherein said computer readable code configured to cause a computer to partially compress further comprises:

computer readable code configured to cause a computer to assign an order to triangle primitives covering said tile;

computer readable code configured to cause a computer to determine the color type of each sample of said tile;

computer readable code configured to cause a computer to create a compressed format of color entries out of said pixel data;

computer readable code configured to cause a computer to create a pointer to said compressed format;

wherein said pointer comprises a bit encoding associated with each sample in said tile, wherein each bit represents an index to entries in said partial compressed format;

wherein said pointer further comprises a short-hand bit encoding scheme for encoding a pixel with no replacement colors; and

wherein the tile is stored in an uncompressed format when it is covered by more than two primitives.